

## Claims

What is claimed is:

1. A method of managing request groups of a communications environment, said method comprising:

obtaining a plurality of request groups; and

tracking, by hardware of the communications environment, a dependency between at least multiple request groups of the plurality of request groups.

2. The method of claim 1, wherein the obtaining comprises grouping, by a communications processor of the communications environment, a plurality of requests for a plurality of tasks into the plurality of request groups.

3. The method of claim 1, further comprising sending a response for a request group of the at least multiple request groups to a communications processor of the communications environment in an order indicated by the tracking.

4. The method of claim 3, wherein the communications processor is alleviated from determining order of responses.

5. The method of claim 3, wherein the sending is facilitated by a memory response unit coupled to the communications processor, said memory response unit receiving the response from main memory.

6. The method of claim 5, wherein the response is for at least one request of the request group, said at least one request being issued from said communications processor to a memory request unit coupled thereto, said memory request unit facilitating the sending of the at least one request to main memory.

7. The method of claim 1, wherein the dependency corresponds to an order in which one or more requests of the at least multiple request groups were issued from a communications processor of the communications environment.

8. The method of claim 1, wherein the hardware comprises a state data structure comprising at least one of a predecessor indicator specifying whether a request group of the at least multiple request groups has a predecessor and a successor indicator specifying whether the request group has a successor.

9. The method of claim 8, wherein the state data structure is indexed by a task id of the request group.

10. The method of claim 9, wherein the task id used to index into the state data structure is obtained from another data structure indexed by a tag, said tag identifying a read memory transaction corresponding to a request of the request group.

11. The method of claim 1, further comprising:

determining, based on the tracking, that a response for a request group of the plurality of request groups is to be sent to a communications processor of the communications environment;

checking, in response to being able to send the response, whether there are one or more successor request groups of the request group; and

sending to the communications processor one or more responses for the one or more successor request groups, in response to the checking indicating there are one or more successor request groups.

12. The method of claim 11, wherein the determining comprises:
  - determining whether there are one or more request groups that precede the request group; and
  - checking, in response to the determining indicating that one or more request groups precede the request group, whether one or more responses for the one or more request groups that precede the request group have been sent to the communications processor.
13. The method of claim 11, wherein the determining comprises ensuring that responses of any predecessor request groups of the request group have been sent to the communications processor.

14. A system of managing request groups of a communications environment, said system comprising:

means for obtaining a plurality of request groups; and

means for tracking, by hardware of the communications environment, a dependency between at least multiple request groups of the plurality of request groups.

15. The system of claim 14, wherein the means for obtaining comprises means for grouping, by a communications processor of the communications environment, a plurality of requests for a plurality of tasks into the plurality of request groups.

16. The system of claim 14, further comprising means for sending a response for a request group of the at least multiple request groups to a communications processor of the communications environment in an order indicated by the tracking.

17. The system of claim 16, wherein the means for sending comprises a memory response unit coupled to the communications processor, said memory response unit receiving the response from main memory.

18. The system of claim 17, wherein the response is for at least one request of the request group, said at least one request being issued from said communications processor to a memory request unit coupled thereto, said memory request unit facilitating the sending of the at least one request to main memory.

19. The system of claim 14, wherein the dependency corresponds to an order in which one or more requests of the at least multiple request groups were issued from a communications processor of the communications environment.

20. The system of claim 14, wherein the hardware comprises a state data structure comprising at least one of a predecessor indicator specifying whether a request group of the at least multiple request groups has a predecessor and a successor indicator specifying whether the request group has a successor.

21. The system of claim 20, wherein the state data structure is indexed by a task id of the request group.

22. The system of claim 21, wherein the task id used to index into the state data structure is obtained from another data structure indexed by a tag, said tag identifying a read memory transaction corresponding to a request of the request group.

23. The system of claim 14, further comprising:

means for determining, based on the tracking, that a response for a request group of the plurality of request groups is to be sent to a communications processor of the communications environment;

means for checking, in response to being able to send the response, whether there are one or more successor request groups of the request group; and

means for sending to the communications processor one or more responses for the one or more successor request groups, in response to the checking indicating there are one or more successor request groups.

24. The system of claim 23, wherein the means for determining comprises:

means for determining whether there are one or more request groups that precede the request group; and

means for checking, in response to the determining indicating that one or more request groups precede the request group, whether one or more responses for the one or more request groups that precede the request group have been sent to the communications processor.

25. The system of claim 23, wherein the means for determining comprises means for ensuring that responses of any predecessor request groups of the request group have been sent to the communications processor.

26. A system of managing request groups of a communications environment, said system comprising:

a plurality of request groups; and

hardware of the communications environment to track a dependency between at least multiple request groups of the plurality of request groups.

27. The system of claim 26, further comprising a memory response unit coupled to the hardware and to a communications processor of the communications environment, said memory response unit to receive a response for a request group of the at least multiple request groups from main memory and to send the response to the communications processor, in an order indicated by the tracking.

28. The system of claim 27, wherein the response is for at least one request of the request group, said at least one request being issued from said communications processor to a memory request unit coupled thereto, said memory request unit to facilitate the sending of the at least one request to main memory.

29. The system of claim 26, wherein the hardware comprises a state data structure comprising at least one of a predecessor indicator specifying whether a request group of the at least multiple request groups has a predecessor and a successor indicator specifying whether the request group has a successor.

30. The system of claim 26, further comprising:

a memory response unit to employ the hardware to determine that a response for a request group of the plurality of request groups is to be sent to a communications processor coupled to the memory response unit and to check, in response to being able to send the response, whether there are one or more successor request groups of the request group; and

the memory response unit to facilitate sending to the communications processor one or more responses for the one or more successor request groups, in response to an indication that there are one or more successor request groups.

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